RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/549,977
Source: PCT
Date Processed by STIC: 10/03/2005

ENTERED

PCT

RAW SEQUENCE LISTING DATE: 10/03/2005
PATENT APPLICATION: **US/10/549,977** TIME: 14:31:47

Input Set : **A:\SEQ 32999A.txt**
Output Set: **N:\CRF4\10032005\J549977.raw**

<110> APPLICANT: Iourgenko, Vadim
Labow, Mark A.
Song, Chuanzheng
Zhang, Wenjun
Zhu, Jian
<120> TITLE OF INVENTION: Cyclic AMP Response Element Activator Proteins and Uses Related Thereto
<130> FILE REFERENCE: 4-32999P2
C--> 16 **<140> CURRENT APPLICATION NUMBER: US/10/549,977**
C--> 16 **<141> CURRENT FILING DATE: 2005-09-20**
<150> PRIOR APPLICATION NUMBER: 60/463,934
<151> PRIOR FILING DATE: 2003-04-18
<160> NUMBER OF SEQ ID NOS: 39
<170> SOFTWARE: FastSEQ for Windows Version 4.0
<210> SEQ ID NO: 1
<211> LENGTH: 2878
<212> TYPE: DNA
<213> ORGANISM: human
<400> SEQUENCE: 1
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gacaccggga ccgatccagc ctccggactc tagcctaggc cgcgggacgg ataacaattt 180
cacacaggaa acagctatga ccattaggcc tatttaggtg acactataga acaagtttgt 240
acaaaaaagc aggctggtac cggtccggaa ttcccgggag gaggaggagg tggcggcgag 300
aagatggcga cttcgaacaa tccgcggaaa ttcagcgaga agatcgcgct gcacaatcag 360
aagcaggcgg aggagacggc ggccttcgag gaggtcatga aggacctgag cctgacgcgg 420
gccgcgcggc tccagctcca gaaatcccag tacctgcaac tgggccccag ccgaggccag 480
tactatggcg ggtccctgcc caacgtgaac cagatcggga gtggcaccat ggacctgccc 540
ttccagccca gcggatttct gggggaggcc ctggcagcgg ctcctgtctc tctgaccccc 600
ttccaatcct cgggcctgga caccagccgg accacccggc accatgggct ggtggacagg 660
gtgtaccggg agcgtggccg gctcggctcc ccacaccgcc ggcccctgtc agtggacaaa 720
cacggacggc aggccgacag ctgcccctat ggcaccatgt acctctcacc acccgcggac 780
accagctgga gaaggaccaa ttctgactcc gccctgcacc agagcacaat gacgcccacg 840
cagccagaat cctttagcag tgggtcccag gacgtgcacc agaaaagagt cttactgtta 900
acagtcccag gaatggaaga gaccacatca gaggcagaca aaaacctttc caagcaagca 960
tgggacacca agaagacggg gtccaggccc aagtcctgtg aggtccccgg aatcaacatc 1020
ttcccgtctg ccgaccagga aaacactaca gccctgatcc ccgccaccca caacacaggg 1080
gggtccctgc ccgacctgac caacatccac ttcccctccc cgctcccgac cccgctggac 1140
cccgaggagc ccaccttccc tgcactgagc agctccagca gcaccggcaa cctcgcggcc 1200
aacctgacgc acctgggcat cggtggcgcc ggccagggaa tgagcacacc tggctcctct 1260
ccacagcacc gcccagctgg cgtcagcccc ctgtccctga gcacagaggc aaggcgtcag 1320
caggcatcgc ccaccctgtc cccgctgtca cccatcactc aggctgtagc catggacgcc 1380
ctgtctctgg agcagcagct gccctacgcc ttcttcaccc aggcgggctc ccagcagcca 1440

(cpg-6)

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53 ccgccgcagc cccagccccc gccgcctcct ccacccgcgt cccagcagcc accacccccg 1500
54 ccacccccac aggcgcccgt ccgcctgccc cctggtggcc ccctgttgcc cagcgccagc 1560
55 ctgactcgtg ggccacagcc gcccccgctt gcagtcacgg taccgtcctc tctccccag 1620
56 tcccccccag agaaccctgg ccagccatcg atggggatcg acatcgcctc ggcgccggct 1680
57 ctgcagcagt accgcactag cgccggctcc ccggccaacc agtctcccac ctcgccagtc 1740
58 tccaatcaag gcttctcccc agggagctcc ccgcaacaca cttccaccct gggcagcgtg 1800
59 tttggggacg cgtactatga gcagcagatg gcggccaggc aggccaatgc tctgtcccac 1860
60 cagctggagc agttcaacat gatggagaac gccatcagct ccagcagcct gtacagcccg 1920
61 ggctccacac tcaactactc gcaggcggcc atgatgggcc tcacgggcag ccacgggagc 1980
62 ctgccggact cgcagcaact gggatacgcc agccacagtg gcatccccaa catcatcctc 2040
63 acagtgacag gagagtcccc ccccagcctc tctaaagaac tgaccagctc tctggccggg 2100
64 gtcggcgacg tcagcttcga ctccgacagc cagtttcccc tggacgaact caagatcgac 2160
65 cccctgaccc tcgacggact gcacatgctc aacgaccccg acatggttct ggccgaccca 2220
66 gccaccgagg acaccttccg gatggaccgc ctgtgagcgg gcacgccggc accctgccgc 2280
67 tcagccgtcc cgacggcgcc tccccagccc ggggacggcc gtgctccgtc cctcgccaac 2340
68 ggccgagctt gtgattctga gcttgcaatg ccgccaagcg ccccccgcca gcccgccccc 2400
69 ggttgtccac ctcccgcgaa gcccaatcgc gaggccgcga gccgggccgt ccacccaccc 2460
70 gcccgcccag ggctgggctg ggatcggagg ccgtgagcct cccgcccctg cagaccctcc 2520
71 ctgcactggc tccctcgccc ccagccccgg ggcctgagcc gtcccctgta agatgcggga 2580
72 agtgtcagct cccggcgtgg cgggcaggct caggggaggg gcgcgcatgg tccgccaggg 2640
73 ctgtgggccg tggcgcattt tccgactgtt tgtccagctc tcactgcctt ccttggttcc 2700
74 cggtccccca gcccatccgc catccccagc ccgtggtcag gtagagagtg agccccacgc 2760
75 cgccccaggg aggaggcgcc agagcgcggg gcagacgcaa agtgaaataa acactatttt 2820
76 gacggcaaaa aaaaaaaaaa agggcggccg ctctagagta tccctcgagg ggcccaag   2878
78 <210> SEQ ID NO: 2
79 <211> LENGTH: 650
80 <212> TYPE: PRT
81 <213> ORGANISM: human
83 <400> SEQUENCE: 2
84 Met Ala Thr Ser Asn Asn Pro Arg Lys Phe Ser Glu Lys Ile Ala Leu
85  1               5                  10                  15
86 His Asn Gln Lys Gln Ala Glu Glu Thr Ala Ala Phe Glu Glu Val Met
87             20                  25                  30
88 Lys Asp Leu Ser Leu Thr Arg Ala Ala Arg Leu Gln Leu Gln Lys Ser
89         35                  40                  45
90 Gln Tyr Leu Gln Leu Gly Pro Ser Arg Gly Gln Tyr Tyr Gly Gly Ser
91     50                  55                  60
92 Leu Pro Asn Val Asn Gln Ile Gly Ser Gly Thr Met Asp Leu Pro Phe
93 65                  70                  75                  80
94 Gln Pro Ser Gly Phe Leu Gly Glu Ala Leu Ala Ala Ala Pro Val Ser
95                 85                  90                  95
96 Leu Thr Pro Phe Gln Ser Ser Gly Leu Asp Thr Ser Arg Thr Thr Arg
97             100                 105                 110
98 His His Gly Leu Val Asp Arg Val Tyr Arg Glu Arg Gly Arg Leu Gly
99         115                 120                 125
100 Ser Pro His Arg Arg Pro Leu Ser Val Asp Lys His Gly Arg Gln Ala
101     130                 135                 140
102 Asp Ser Cys Pro Tyr Gly Thr Met Tyr Leu Ser Pro Pro Ala Asp Thr
103 145                 150                 155                 160
```

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Input Set : A:\SEQ 32999A.txt
Output Set: N:\CRF4\10032005\J549977.raw

```
104 Ser Trp Arg Arg Thr Asn Ser Asp Ser Ala Leu His Gln Ser Thr Met
105                 165                 170                 175
106 Thr Pro Thr Gln Pro Glu Ser Phe Ser Ser Gly Ser Gln Asp Val His
107             180                 185                 190
108 Gln Lys Arg Val Leu Leu Leu Thr Val Pro Gly Met Glu Glu Thr Thr
109         195                 200                 205
110 Ser Glu Ala Asp Lys Asn Leu Ser Lys Gln Ala Trp Asp Thr Lys Lys
111     210                 215                 220
112 Thr Gly Ser Arg Pro Lys Ser Cys Glu Val Pro Gly Ile Asn Ile Phe
113 225                 230                 235                 240
114 Pro Ser Ala Asp Gln Glu Asn Thr Thr Ala Leu Ile Pro Ala Thr His
115                 245                 250                 255
116 Asn Thr Gly Gly Ser Leu Pro Asp Leu Thr Asn Ile His Phe Pro Ser
117             260                 265                 270
118 Pro Leu Pro Thr Pro Leu Asp Pro Glu Glu Pro Thr Phe Pro Ala Leu
119         275                 280                 285
120 Ser Ser Ser Ser Ser Thr Gly Asn Leu Ala Ala Asn Leu Thr His Leu
121     290                 295                 300
122 Gly Ile Gly Gly Ala Gly Gln Gly Met Ser Thr Pro Gly Ser Ser Pro
123 305                 310                 315                 320
124 Gln His Arg Pro Ala Gly Val Ser Pro Leu Ser Leu Ser Thr Glu Ala
125                 325                 330                 335
126 Arg Arg Gln Gln Ala Ser Pro Thr Leu Ser Pro Leu Ser Pro Ile Thr
127             340                 345                 350
128 Gln Ala Val Ala Met Asp Ala Leu Ser Leu Glu Gln Gln Leu Pro Tyr
129         355                 360                 365
130 Ala Phe Phe Thr Gln Ala Gly Ser Gln Gln Pro Pro Pro Gln Pro Gln
131     370                 375                 380
132 Pro Pro Pro Pro Pro Pro Pro Ala Ser Gln Gln Pro Pro Pro Pro Pro
133 385                 390                 395                 400
134 Pro Pro Gln Ala Pro Val Arg Leu Pro Pro Gly Gly Pro Leu Leu Pro
135                 405                 410                 415
136 Ser Ala Ser Leu Thr Arg Gly Pro Gln Pro Pro Pro Leu Ala Val Thr
137             420                 425                 430
138 Val Pro Ser Ser Leu Pro Gln Ser Pro Pro Glu Asn Pro Gly Gln Pro
139         435                 440                 445
140 Ser Met Gly Ile Asp Ile Ala Ser Ala Pro Ala Leu Gln Gln Tyr Arg
141     450                 455                 460
142 Thr Ser Ala Gly Ser Pro Ala Asn Gln Ser Pro Thr Ser Pro Val Ser
143 465                 470                 475                 480
144 Asn Gln Gly Phe Ser Pro Gly Ser Ser Pro Gln His Thr Ser Thr Leu
145                 485                 490                 495
146 Gly Ser Val Phe Gly Asp Ala Tyr Tyr Glu Gln Gln Met Ala Ala Arg
147             500                 505                 510
148 Gln Ala Asn Ala Leu Ser His Gln Leu Glu Gln Phe Asn Met Met Glu
149         515                 520                 525
150 Asn Ala Ile Ser Ser Ser Ser Leu Tyr Ser Pro Gly Ser Thr Leu Asn
151     530                 535                 540
152 Tyr Ser Gln Ala Ala Met Met Gly Leu Thr Gly Ser His Gly Ser Leu
```

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PATENT APPLICATION: US/10/549,977 TIME: 14:31:47

Input Set : A:\SEQ 32999A.txt
Output Set: N:\CRF4\10032005\J549977.raw

```
153 545                 550                 555                 560
154 Pro Asp Ser Gln Gln Leu Gly Tyr Ala Ser His Ser Gly Ile Pro Asn
155                 565                 570                 575
156 Ile Ile Leu Thr Val Thr Gly Glu Ser Pro Pro Ser Leu Ser Lys Glu
157             580                 585                 590
158 Leu Thr Ser Ser Leu Ala Gly Val Gly Asp Val Ser Phe Asp Ser Asp
159         595                 600                 605
160 Ser Gln Phe Pro Leu Asp Glu Leu Lys Ile Asp Pro Leu Thr Leu Asp
161     610                 615                 620
162 Gly Leu His Met Leu Asn Asp Pro Asp Met Val Leu Ala Asp Pro Ala
163 625                 630                 635                 640
164 Thr Glu Asp Thr Phe Arg Met Asp Arg Leu
165                 645                 650
168 <210> SEQ ID NO: 3
169 <211> LENGTH: 32
170 <212> TYPE: DNA
171 <213> ORGANISM: Artificial Sequence
173 <220> FEATURE:
174 <223> OTHER INFORMATION: primer
176 <400> SEQUENCE: 3
177 gcccaagctt tgtgctctgc tgtctctgaa ag                                32
179 <210> SEQ ID NO: 4
180 <211> LENGTH: 23
181 <212> TYPE: DNA
182 <213> ORGANISM: Artificial Sequence
184 <220> FEATURE:
185 <223> OTHER INFORMATION: primer
187 <400> SEQUENCE: 4
188 gccctgaggg gatgggccat cag                                          23
190 <210> SEQ ID NO: 5
191 <211> LENGTH: 36
192 <212> TYPE: DNA
193 <213> ORGANISM: Artificial Sequence
195 <220> FEATURE:
196 <223> OTHER INFORMATION: primer
198 <400> SEQUENCE: 5
199 cgcggatccg aagtgtgatg actcaggttt gccctg                            36
201 <210> SEQ ID NO: 6
202 <211> LENGTH: 36
203 <212> TYPE: DNA
204 <213> ORGANISM: Artificial Sequence
206 <220> FEATURE:
207 <223> OTHER INFORMATION: primer
209 <400> SEQUENCE: 6
210 cgcggatccg aagtgtgata tctcaggttt gccctg                            36
212 <210> SEQ ID NO: 7
213 <211> LENGTH: 54
214 <212> TYPE: DNA
215 <213> ORGANISM: Artificial Sequence
```

RAW SEQUENCE LISTING DATE: 10/03/2005
PATENT APPLICATION: US/10/549,977 TIME: 14:31:47

Input Set : A:\SEQ 32999A.txt
Output Set: N:\CRF4\10032005\J549977.raw

```
217 <220> FEATURE:
218 <223> OTHER INFORMATION: primer
220 <400> SEQUENCE: 7
221 gccctgaggg gatgggccat cagttgcaaa tcgttaactt tcctctgaca taat       54
223 <210> SEQ ID NO: 8
224 <211> LENGTH: 39
225 <212> TYPE: DNA
226 <213> ORGANISM: Artificial Sequence
228 <220> FEATURE:
229 <223> OTHER INFORMATION: primer
231 <400> SEQUENCE: 8
232 gccctgaggg gatgggccat cagctacgag tcgtggaat                       39
234 <210> SEQ ID NO: 9
235 <211> LENGTH: 47
236 <212> TYPE: DNA
237 <213> ORGANISM: Artificial Sequence
239 <220> FEATURE:
240 <223> OTHER INFORMATION: primer
242 <400> SEQUENCE: 9
243 cgcggatccg aagtgtgatg actcaggttt gccctgaggg gatgggc              47
245 <210> SEQ ID NO: 10
246 <211> LENGTH: 43
247 <212> TYPE: DNA
248 <213> ORGANISM: Artificial Sequence
250 <220> FEATURE:
251 <223> OTHER INFORMATION: primer
253 <400> SEQUENCE: 10
254 cagttgcaaa tcgtggaatt tcctctcgat caatgaaaag atg                  43
256 <210> SEQ ID NO: 11
257 <211> LENGTH: 39
258 <212> TYPE: DNA
259 <213> ORGANISM: Artificial Sequence
261 <220> FEATURE:
262 <223> OTHER INFORMATION: primer
264 <400> SEQUENCE: 11
265 gccctgaggg gatgggccat cagttgcaaa tcgtggaat                       39
267 <210> SEQ ID NO: 12
268 <211> LENGTH: 19
269 <212> TYPE: DNA
270 <213> ORGANISM: Artificial Sequence
272 <220> FEATURE:
273 <223> OTHER INFORMATION: primer
275 <400> SEQUENCE: 12
276 cgcctggtac cgagctctg                                            19
278 <210> SEQ ID NO: 13
279 <211> LENGTH: 19
280 <212> TYPE: DNA
281 <213> ORGANISM: Artificial Sequence
283 <220> FEATURE:
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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/03/2005
PATENT APPLICATION: **US/10/549,977** TIME: 14:31:48

Input Set : **A:\SEQ 32999A.txt**
Output Set: **N:\CRF4\10032005\J549977.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:15; N Pos. 2,13,2431,2453,2465,2468,2469,2479,2488,2489,2492,2505,2512
Seq#:15; N Pos. 2514,2519,2520
Seq#:24; N Pos. 1,13
Seq#:28; N Pos. 1528

VERIFICATION SUMMARY DATE: 10/03/2005
PATENT APPLICATION: **US/10/549,977** TIME: 14:31:48

Input Set : **A:\SEQ 32999A.txt**
Output Set: **N:\CRF4\10032005\J549977.raw**

L:16 M:270 C: Current Application Number differs, Replaced Current Application No
L:16 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:315 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:15
L:316 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
M:341 Repeated in SeqNo=15
L:543 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0
L:869 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:1500